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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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EXAMINER

VERDIER, C

| ART UNIT | PAPER NUMBER |
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| 3745 | 7 |

DATE MAILED: 07/07/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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|------------------------------|--|--|
| Office Action Summary | Application No. 09/034,313 | Applicant(s) Claxton III, et al. |
| | Examiner Christopher Verdier | Group Art Unit 3745 |

Responsive to communication(s) filed on Feb 1, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-17, 19-22, and 24-26 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) 26 is/are allowed.

Claim(s) 1-9, 14-17, 19-22, 24, and 25 is/are rejected.

Claim(s) 10-13 is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Applicants' Amendment dated March 22, 1999 has been carefully considered but is deemed non-persuasive. Claims 1-17, 19-22, and 24-26 are pending. Claims 18 and 23 have been canceled. The Supplemental Reissue Declaration has been reviewed and complies with 37 CFR 1.175.

Applicants have argued that the Recapture Doctrine does not apply to claims 15-24 and that these claims are not rejectable under the Recapture Doctrine. More specifically, Applicants have argued that while independent claim 1 was rewritten to include the allowable features of dependent claim 4, it is not true that the patentees surrendered the features of claim 4 to secure the patent. Applicants have also cited *In re Byers* for support of their position and argued that the features of claim 1 were surrendered and not the features of claim 4 as assumed in the Office action. These arguments are not persuasive. Because then pending claim 1 in the application 08/321,857 which matured into U.S. Patent 5,496,150 was rewritten to include the allowable features of then pending dependent claim 4, the subject matter of **claim 1** in the issued patent was surrendered in order to overcome the prior art. The reason that then pending claims 4-15 were allowable over the prior art of record in the application 08/321,857 which matured into U.S. Patent 5,496,150 was that the prior art did not teach a bearing cartridge separably fastened within the diffuser core, with the bearing cartridge carrying axially spaced bearings. Hacker, which was of record in application 08/321,857 discloses in figures 1 and 2 two separate, removable bearing cartridges that each carry a single bearing, with the bearing cartridge 42 being in the diffuser core.

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The deletion of the language which was added to claim 1 (the separable bearing cartridge which includes axially spaced bearings as recited in claim 1, lines 23-26) of the issued patent in order to overcome the prior art and substitution of broader language in reissue claims is a violation of the Recapture Doctrine.

The examiner also respectfully disagrees with Applicants' arguments regarding the applicability of the Clement decision.

In Clement, the court elucidated a detailed method of analyzing whether or nor the recapture rule applies. The court explicitly stated that the first step in applying the recapture rule is to determine whether and in what aspect the reissue claims are broader than the patent claims.

The first Office clearly set forth the explicit language that was in the patent claims but was removed from the reissue claims.

In Clement, the Court said that the second step is to determine whether the broader aspects of the reissue claims relate to surrendered subject matter. To determine whether an applicant surrendered particular subject matter, one looks to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection.

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The first Office action clearly pointed out what language was added to patent claim 1 to overcome the prior art rejection, make it allowable over the prior art, and cause the patent to issue.

The reissue claims have tried to remove claim language which was explicitly added to overcome a prior art rejection and therefore the reissue claims have been broadened in a material aspect, i.e., in an aspect that was material to the rejection that was overcome by adding the language now sought to be removed.

On balance, reissue claims 15-17, 19-22, and 24-25 are broader in a manner directly pertinent to the subject matter that Applicants surrendered (what was added to then pending claim 1 to make it allowable and issue as patent claim 1) during the prosecution of the patent.

Applicants have argued concerning the rejection of claims 1-4, 6-7, and 14 under 35 USC 103 as being unpatentable over United Kingdom Patent 257,111 in view of Springer that the pump in Springer is a radial flow pump different in construction and operation from the vertical pump in the United Kingdom Patent and therefore United Kingdom Patent 257,111 is not combinable with the Springer. Applicants have further argued that the claims are patentable because Springer has no diffuser core, and that Springer's hollow tubular support member 300 is not removed from an upstream direction of the pump casing. Finally, Applicants have argued that

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the claims are patentable because the impeller of Springer is not removed when the hollow tubular support member 300 is taken out. These arguments are not persuasive because the test for combining references is what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re Simon*, 174 USPQ 114 (CCPA 1972); *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). One of ordinary skill in the art would not limit the teachings of Springer to only a vertical pump, but would recognize that the bearing cartridge carrying axially spaced bearings is applicable to any type flow pump. One of ordinary skill in the art would not limit the teachings of Springer to only pump casings, but would recognize the applicability to diffuser core bearings. In addition, it does not matter that a reference does not solve the same problem that the claimed invention is solving or that the suggestion for combining the prior art is to achieve an end or purpose different from that which the applicants may have had in mind. *In re Beattie*, 974 F.2d 1309, 24 USPQ2d 1040 (Fed. Cir. 1992); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990); *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979). So long as there is a valid basis in the reference teachings themselves for the combination, a conclusion of obviousness grounded on that basis is appropriate. Although in Springer, the impeller of Springer is not removed when the hollow tubular support member 300 is taken out, Springer is merely relied upon to teach a bearing cartridge in the form of a tubular housing separately fastened within a support with the bearing cartridge carrying axially spaced bearings that are fixed within the tubular housing. In the United

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Kingdom Patent 257,111, the impeller already is removed in the upstream direction and then the bearing removed.

Applicants' argument that Ruyak does not disclose a bearing cartridge but rather a gland nut 56 is persuasive. However, Springer discloses a bearing cartridge.

Reissue Applications

This application is objected to under 37 CFR 1.172(a) as lacking the written consent of all assignees owning an undivided interest in the patent. The consent of the assignee must be in compliance with 37 CFR 1.172. See MPEP § 1410.01.

A proper assent of the assignee in compliance with 37 CFR 1.172 and 3.73 is required in reply to this Office action.

Claim Objections

Claims 20-22 and 24 are objected to under 37 CFR 1.121(b) because claim 20, line 9 improperly contains bracketing, which must not be utilized in newly added reissue claims. See MPEP 1453.

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Reissue Rejections

Claims 15-17, 19-22, and 24-25 are rejected under the "Recapture Doctrine". See in the case law cited in MPEP 1412.02 and the recent decision, *In re Clement*, 45 USPQ 2d 1161 (Fed. Cir. 1997). In the parent application 08/321,857 which matured into US Patent 5,496,150, Applicants rewrote independent claim 1 to include the allowable limitations of claim 4 of the bearing cartridge being separably fastened within the diffuser core with the bearing cartridge carrying axially spaced bearings which surround and rotatably support the drive shaft and canceled dependent claim 4. These limitations were added by Applicants in the amendment dated July 28, 1995 in order to define over the prior art. The reason that claims 4-15 were allowable over the prior art of record was that the prior art did not teach a separable bearing cartridge which includes axially spaced bearings. The deletion of the language which was added to claim 1 of the issued patent in order to overcome the prior art and substitution of broader language in reissue claims is a direct violation of the Recapture Doctrine.

Claim Rejections - 35 USC § 112

Claims 15-17, 19-22, and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 15, line 9 and claim 20, lines 9-10 which recite that the bearing cartridge is separably fastened to the casing is inaccurate. As disclosed in the specification and as seen in figure 3, the bearing cartridge 56 is separably fastened to the diffuser

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core 18/60/62, and not to the pump casing 10/12 as is claimed. In claim 16, line 3, "active element" is a double recitation. In claim 20, lines 7-8, "a bearing" is a double recitation. In claim 21, line 3, "active element" is a double recitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-7, 15-17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over United Kingdom Patent 257,111 in view of Springer. The United Kingdom

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Patent discloses a vertical turbine pump substantially as claimed including a bulbous diffuser section 2 with narrow upstream and downstream sections 1, 3, respectively, an impeller 9 with flared shrouds which are in part axially spaced from one another, spiral blades 10, a bulbous diffuser core 6, stationary vanes 7, 7' with curved upstream ends and axial downstream ends, and a bearing assembly 5 within the diffuser core. The bearing assembly is removable from an upstream section of the casing. However, the United Kingdom Patent does not disclose a bearing cartridge in the form of a tubular housing separately fastened within the diffuser core with the bearing cartridge carrying axially spaced bearings that are fixed within the tubular housing, nor does the United Kingdom Patent disclose a bearing cartridge in the form of an elongated housing separately fastened within the diffuser core with the bearing cartridge having a bearing located therein.

Springer (figure 13) shows a pump having a bearing cartridge 300 in the form of a tubular housing separately fastened within a support 248 with the bearing cartridge carrying axially spaced bearings that are fixed within the tubular housing for the purpose of allowing easy removal of the bearings as a whole unit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the bearing assembly 5 of the pump of the United Kingdom Patent 257,111 with a bearing cartridge in the form of a tubular housing separately fastened

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within the diffuser core with the bearing cartridge carrying axially spaced bearings that are fixed within the tubular housing as taught by Springer for the purpose of allowing easy removal of the bearings as a whole unit. Although Springer shows the tubular housing mounted to a support, one of ordinary skill in the art would have recognized the applicability to the diffuser core of the United Kingdom Patent. Concerning claim 14, note that flange 304 of the bearing cartridge of Springer is a formation which is adapted to mate with a pair of pliers for facilitating removal and installation of the bearing cartridge.

Claims 5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over United Kingdom Patent 257,111 and Springer as applied to claims 4, 7, and 7, respectively above, and further in view of either Clause or Fukute. The modified pump of United Kingdom Patent 257,111 shows all of the claimed subject matter except for the tubular housing being fastened to the diffuser core with threads on the tubular housing.

Clause (figures 1 and 3) and Fukute (figure 7) show bearing cartridges 17, 10g, respectively, in the form of tubular housings that carry a bearing 20, 7, respectively, and are secured to supports 10, 3, respectively, by threads on the tubular housing for the purpose of providing an easily removable bearing assembly.

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It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified pump of the United Kingdom Patent such that the tubular housing is fastened to the diffuser core by threads on the tubular housing as taught by either Clause or Fukute for the purpose of providing an easily removable bearing assembly. Although Clause and Fukute show the tubular housing mounted to supports, one of ordinary skill in the art would have recognized the teaching of a threaded connection of the bearing housing to a support is applicable to bearings secured to any support structure such as a diffuser.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over United Kingdom Patent 257,111 and Springer as applied to claim 20 above. The modified pump of the United Kingdom Patent shows all of the claimed subject matter except for the bearings being sleeve-type bearings.

Official Notice is taken that ball bearings and sleeve-type bearings are art recognized equivalent bearings for use in the bearing art. It would have been further obvious to a person having ordinary skill in the art to replace the ball bearings of the modified pump of the United Kingdom Patent 257,11 with sleeve-type bearings as an obvious functional equivalent.

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Allowable Subject Matter

Claims 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 26 is allowed.

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Verdier whose telephone number is (703) 308-2638. The examiner can normally be reached on Monday-Friday from 9:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on (703) 308-1044. The fax phone number for this Group is (703) 305-3588.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

CV
June 8, 1999

Chris Verdier
Christopher Verdier
Primary Examiner
Art Unit 3745